

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number
WO 2005/064863 A1

(51) International Patent Classification⁷: **H04L 12/56**

(21) International Application Number:
PCT/EP2004/014668

(22) International Filing Date:
23 December 2004 (23.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0303584-7 30 December 2003 (30.12.2003) SE
04015198.7 29 June 2004 (29.06.2004) EP

(71) Applicant (for all designated States except US): TELEFONAKTIEBOLAGET LM ERICSSON (publ) [SE/SE]; S-126 25 Stockholm (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LARSSON, Peter

[SE/SE]; Ballonggatan 2, 1 tr., S-169 71 Solna (SE). JOHANSSON, Niklas, J. [SE/SE]; Orkanvägen 25, S-177 71 Järfälla (SE).

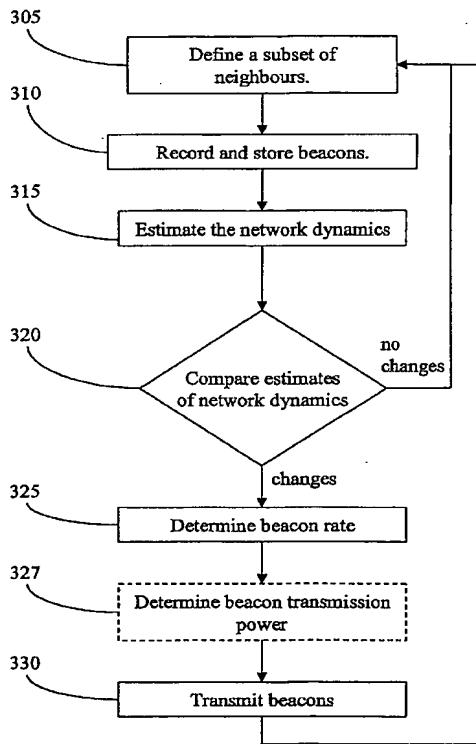
(74) Agent: DR LUDWIG BRANN PATENTBYRÅ AB; Box 17192, S-104 62 Stockholm (SE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: METHOD AND ARRANGEMENT IN WIRELESS AD HOC OR MULTIHOP NETWORKS



(57) Abstract: The present invention relates to the use of beaconing or "hello" messages in wireless multihop or ad hoc communication networks. In the method according to the present invention beacon messages (HELLO messages) are transmitted between a plurality of radio nodes (205, 215) in an ad hoc or multihop network. The rate of which the radio nodes transmit their beacons is based on an estimate of the network dynamics. Also the transmit power of the beacons are preferably based on an estimate of the network dynamics. The radio nodes bases their estimate of the network dynamics on beacons received from neighboring radio nodes.

WO 2005/064863 A1



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.